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ABSTRACT

The United States influenced the origins, elaboration, and implementation of the politics of knowledge between social science and policy in the South African National Bureau for Educational and Social Research. Divided into six sections, the historical analysis of the Bureau: (1) examined the context within which the Bureau emerged, the origins of the new paradigm, and the organization of the Bureau; (2) looked at the first major study in the new paradigm; (3) explored the Bureau's role in intelligence testing; (4) examined the efficiency surveys in African education; (5) studied the Bureau's involvement in educational measurement; and (6) evaluated the Bureau's bilingual survey and its consequences. Established in 1929 as an informal information gathering and research division within the South African Union Department of Education, the Bureau became the center of the development of a new relationship between social science and policy in South Africa. Four years after the Bureau's foundation, its potential influence increased with a substantial grant from the Carnegie Corporation of New York (United States). The foreign funding enabled the Bureau to sponsor, conduct, and publish social science research as well as build a national library on education and the social sciences. Although temporarily closed in 1940 for the duration of World War II, the Bureau continued to exert influence on South African policy until its incorporation into the Human Sciences Research Council in 1969. As the director of the Bureau, Dr. Ernest Gideon Malherbe pioneered an interdisciplinary approach to policy oriented social science research in the Carnegie Poor White Study. (Author/CK)

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AMERICAN INFLUENCES ON THE DEVELOPMENT OF SOCIAL AND EDUCATIONAL RESEARCH IN SOUTH AFRICA, 1929-1943

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AMERICAN INFLUENCES ON THE DEVELOPMENT OF SOCIAL AND EDUCATIONAL RESEARCH IN SOUTH AFRICA, 1929-1943

"Facts," Malherbe instructed his audience at the inaugural meeting of the National Research Council and Board in 1938, "are potential forces: more like sticks of dynamite. They can act as a shock to mental inertia, to social complacency and to existing beliefs." At the height of his power, Dr. Ernest Gideon Malherbe, past president of the South African Association of Sciences, director of the National Bureau of Educational and Social Research, and author of numerous monographs and of the definitive history of South African education, was spelling out his politics of knowledge. "Facts," he continued, "are absolutely necessary when one wants to effect social change. Reformers often forget this. They start with proposing remedies and are surprised when nought comes of them." In a triumphant flourish he concluded:

> A vague feeling that things are not all right does not get one very far. What you need are facts which have a definiteness and precision about them to focus this feeling. The expression of vague feelings of dissatisfaction usually impinges upon the inertia of social institutions like beating against a wall with a pillow. To make an impression one needs the precise and sharp cutting edge of a definite scientific fact. While the effect of the former is only sound and dust, the latter will penetrate and cut with devastating precision particularly where it has the pressure of public opinion behind it.[1]

These statements were not trivial public utterances. Quite the contrary. The words succinctly encapsulate Dr. Malherbe's conception of the relationship between knowledge and social change. The facts, the discoveries of trained specialists, are weapons or tools which explode, penetrate and cut. The weapons or tools are to be used to awaken public opinion from its inertia and social complacency. This awakened public would ultimately effect social change. In this politics of knowledge, the discoverers of facts have enormous power to set in motion the process of social change. Without them, social change is an emotional activity that generates, at best, sound and dust.

This essay is a history of the American origins, elaboration and implementation of this politics of knowledge in the National Bureau for Educational and Social Research. Established in 1929 as an information gathering and research division within the South African Union Department of Education, the Bureau became the center of the development of a new relationship between social science and policy in South Africa. Four years after it was founded the Bureau's potential influence increased with the substantial grant from the Carnegie Corporation of New York. This foreign funding would enable the Bureau to sponsor, conduct, and publish social science research, as well as to build a national library on educational and social sciences. Although temporarily closed in 1940 for the duration of the Second World War, the Bureau continued to exert influence on State policy until its incorporation into the Human Sciences Research Council in 1969.

In his capacity as the director of the Bureau, Malherbe pioneered an interdisciplinary approach to policy oriented social science research in the Carnegie Poor White Study. The Bureau played a key role in "advancing" the science of standardized intelligence and scholastic testing in South Africa. It conducted extensive school surveys which revealed the massive educational "wastage". The Bureau's research played a central role in reconceptualizing bilingualism and bilingual instruction.

These developments would be worth considering in themselves, and they are described in this study. But the purpose of this essay in not simply to chronicle the organization and activities of the Bureau. It is rather to consider the history of the Bureau, its founding, organizational location, and major activities in relation to larger social and educational issues of inter-war South Africa. In this sense, this study touches on major issues of the 1920s and 1930s such as the State's response to white impoverishment; the growth of Afrikaner nationalism; and the challenges to and consolidation of segregation. It focuses on these issues through a particular lens, the refraction of larger social issues through State supported social science. I argue that the Bureau, through its in-house and commissioned studies, defined a new paradigm in the relationship between research and policy, between social scientists and social change, a paradigm that is still prevalent.[2] In the process, a group of intellectuals advanced their own interests by propagating beliefs in the value of social scientists as policy makers. In this process, a new philosophy or approach to education would emerge, what Tyack has called "administrative progressivism" and Kliebard, "social efficiency education".[3] Finally, the study uncovers resistance to the Bureau's paradigm. Resistance came from unpredictable quarters: from liberal missionaries, entrenched bureaucrats, and Afrikaner nationalists. There was little common ground between the resisters save their opposition to social scientists as policy makers.

The study is informed by recent developments in the historiography of the social sciences. The role of social scientists in the policy making process has only recently received the attention of revisionist historians of Southern Africa. In particular Chisholm's pioneering work on the history of delinqency and criminology has set a high standard of scholarship in this area.[4] The international literature on social scientists in the policy making process reflects diverse intellectual traditions. Robert Church's work on the rise of the academic discipline of economics, for example, raises interesting questions about the effects of trying to making a difference in the real world. Church explored the ways in which economists redefined their role in the policy making process from that of teacher of "proper" economic principles to large segments of the society, to that of adviser and expert to influential policy makers. In Church's judgment, the shift from the role of economist as public educator to that of professional and expert adviser, short-circuited popular influence on public policy which in turn held "grave dangers for a democracy".[5]

Similar concerns are evident in Lagemann's work on the Carnegie Foundation for the Advancement of Teaching and the role the foundation played in promoting "private power for the public good".[6] For example, Abraham Flexner, a Carnegie researcher in the field of medical education, suppressed alternative medical education in the name of science and efficiency. More recently, Karl Popkewitz has begun a theoretical exploration of the logic of knowledge per se, and the institutional conditions in which the social sciences emerge. He points out that power the accrued to social scientists came not only from their capacity to direct State policy, but also, and perhaps more importantly, through the incorporation of a discourse about useful knowledge into a science of the public. It was not just the effectiveness of the interventions, but the fact that the social scientists set the terms or framework of the debate in ways which enhanced their prestige. Popkewitz also points to the ways in which professional knowledge as a discourse of state reform involved the

interweaving of a number of institutional developments. These included the rise of the modern university, the growth of the state bureaucracy, and the financial strengths of the industrial foundations.[7]

The study itself is divided into six sections. The first section examines the context within which the Bureau emerged, the origins of the new paradigm and the organization of the bureau. The second section takes a brief look at the first major study in the new paradigm, the Carnegie Commission on the Poor White Problem. The Third section examines the Bureau's role in intelligence testing. This is followed by a section on efficiency surveys in African education. The fifth section explores its involvement in educational measurement. The final section examines, in some detail, the Bureau's bilingual survey and its consequences. This study makes no claims to be either the definitive or exhaustive history of the Bureau, but is rather an interpretative exploration using the relationship between social science and policy as a perspective on the workings of the Bureau.

For the first forty years after the Act of Union, educational policy making in South Africa was decentralized. This was a consequence of the 1910 constitutional provision that devolved responsibility for "education other than higher" to the provinces. Well into the mid-twentieth century the different provincial educational traditions translated into different approaches to policy making. Krige has shown that the four provinces had evolved very different policy making styles with reference to African education. In the Transvaal, the process was dominated by the Transvaal Education Department and the inspectorate. Natal had a centralized approach in which policy reform was basically the work of the Chief Inspector of Native Education. This was in part the result of the influence of Charles T. Loram, who believed that his scientific expertise made him uniquely qualified to direct policy. In the Cape, in contrast, the policy making process was far more inclusive. In general, the different approaches or styles reflected the balance of power within the provinces.[8]

With the notable Natal exception, the policy making process was in the hands of lay-persons or non-experts until after the First World War. These individuals, drawn from within the state bureaucracies, the legislature, the judiciary or the clergy, followed a legalistic procedure. This would involve hearing lengthy testimony from representatives of various constituencies. After collecting this evidence over the course of months or years, the commissioners would reach a verdict which was translated into recommendations.

The absence of "experts" in the policy process and the legalistic approach to policy making reflected the undevelopment of the social sciences in pre-war South Africa. Applied social and educational research was almost non-existent in the universities. Psychology, a major source of authority for the future social science experts, was taught as a branch of philosophy. Other disciplines such as sociology and economics would have to wait until the 1930s before they could exert an influence on policy.[9] The university departments of education and training colleges were primarily concerned with the task of training school teachers. The few higher degree theses that were awarded in education dealt with topics in the history of education. A craft ethos pervaded teacher training[10] In and among the sea of amateurs, a handful of pioneer "experts" with training in educational administration and educational psychology from American universities had begun to

make in-roads into the policy arena. The leading figure in this group was Charles T. Loram, Chief Inspector of Native Education in Natal. His 1917 dissertation, "The Education of the South African Native", was a trailblazing effort to apply social science methods to the problems of African educational policy. Others followed. Wouter de Vos Malan, later to assume the office of Superintendent General of Education in the Cape, conducted research in the early twenties on the "educational waste" in white secondary schools in the Cape. J. Rossouw Malan studied the problem on rural education and laid out detailed plans for school consolidation.[11]

World War I provided the spark for State support for research in South Africa. In 1916, the government instituted an Industrial Advisory Board, which was followed two years later by the Research Grant Board. The aim of the Research Grant Board was to foster research generally. It was only partly successful as it was confined to distributing research grants to individuals, but was not permitted to initiate research projects itself. The Board was administered by a part-time secretary and lacked clear direction.[12] Whatever the limitations of the Research Grant Board, however, it did set a precedent for State involvement in research.

An ambitious young lecturer from the University of Cape Town, Dr. Ernest Gideon Malherbe, directed this emerging State trend into a new institutional form. While studying at Columbia University in New York during the 1920s, Malherbe first articulated the idea of a national education research bureau. He was influenced by research and policy trends in the United States. When he compared the policy process in the United States to the one back home, he found the South African policy making process to be fundamentally flawed. South Africa's policy formulating bodies, commissions of inquiries, often took years to complete their work and then only published unreadable reports. There were added delays between the time the commissions made recommendations and the period it took to translated them into laws to remedy the original crisis. In Malherbe's view, the commission system was "wasteful and extremely unsatisfactory for real educational progress".

What South Africa needed, Malherbe believed, was a new, scientific approach to social policy making. "What we want is action, not mere sporadic outbursts ... sustained action based on scientific methods and principles ... finding out the best possible way of doing a thing and then doing it that way." Only a national research institute would have the capacity to conduct this action oriented research. One model he had in mind was the United States Bureau of Educational Research, which collected and published educational statistics and initiated original research. Another was the policy oriented research approach associated with the large industrial foundations, especially the Carnegie foundations.[13] Malherbe imagined that such an institute or bureau would conduct large scale educational surveys on a scale beyond the means of any single researcher. What he had in mind were large scale, University of Chicago-style surveys, which he believed were "invaluable instruments ... for the increase of efficiency in education". In addition to conducting the large scale surveys, the bureau would take a leading role in standardizing group intelligence and educational tests specifically suited for South African conditions. Malherbe also imagined that such an institution would play a leading role in scientific curriculum making.[14]

Without being fully conscious of it, Malherbe was outlining a new policy making paradigm. In the new paradigm, trained social scientists would play a leading role in improving the "efficiency of education" by applying social science techniques to social and educational problems. Malherbe was committed to the idea that education was an "applied science". His conception of science was not the Hegelian metaphysical notion associated with psychologist G. Stanley Hall, or the Deweyian conception of scientific inquiry as a general model of reflective thinking. Rather, his conception of science was similar to that of Edward Thorndike, unapologetically empiricist and positivist. Education as a science was about exact measurement and precise standards in the interest of maintaining a predictable and orderly world. In this version of science, observation and prediction were directly tied to control.[15]

In 1929, the Minister of Education, Dr. D. F. Malan, took up Malherbe's proposal and established the Bureau for Education Research under the Union Department of Education. Malherbe was appointed director. The function of the Bureau was as Malherbe had laid out in his 1921 letter: to collect and publish educational statistics, liaise with international organizations, and conduct educational research. Due to the onset of the Depression, the Bureau was established in name only, as no new funds were earmarked for it. For the first two years as the director, Malherbe's salary was effectively subsidized by the Carnegie Corporation. Little in the way of research was conducted during these years. Much of Malherbe's time was spent coordinating the collection of statistics from the provincial education departments and completing the work on the Poor White Investigation.[16]

The Bureau only really got off the ground in 1933, when it received an infusion of funds from the Carnegie Corporation. During a visit to the United States in 1933, Malherbe raised money for systematic follow-up studies on problems which had emerged from the Poor White Investigation. Carnegie agreed to a grant-in-aid funding formula similar to that used by the the Australian and New Zealand Councils for Educational Research. In a handwritten memorandum dated November 1933, Malherbe outlined the revised structure and function of an expanded "National Bureau of Research in Education and Social Work". The expanded Bureau would continue to fall under the Union Department of Education. The Union government would be responsible for the salaries of the senior officers, housing, equipment and stationery, and the clerical staff. Carnegie made available a grant available of twenty five thousand pounds over ten years to fund social and educational research; printing and publications; and an education and social work library.[17] The Carnegie Corporation's intervention was critical in transforming the Bureau into a major center of educational and social research. Later in life Malherbe acknowledged that "if it had not been for [the Carnegie] involvement, it is doubtful whether the Bureau would ever have got off the ground when it did."[18]

When Malherbe left the Bureau in 1939 it had three research divisions, educational, social and psychological; a national library on education and social science; and a film division. The Bureau's offical functions included acting as a clearing-house for information on education and social work, as the secretariat of the Inter-Provincial Consultative Committees on matters affecting education. It acted as the local connection to international organizations such as the Committee on Intellectual Co-operation of the League of Nations and the Bureau International d'Education at Geneva. The chief function of the Bureau, however, was to conduct

surveys and research work and to administer the Carnegie research grants. It also acted as a service bureau for government departments such as social welfare and other outside organizations. It provided psychological services directly to schools. The Bureau also maintained a substantial film library for loan to schools.[19]

Unlike similar research institutions in the United States, the Bureau was structurally located within the central bureaucracy at the Union Buildings in Pretoria. By contrast, American research institutes tended to be decentralized in the private and public universities. The financial backing of the major industrial foundation gave these research organisations a modicum of financial stability, which, in Malherbe's judgment, allowed them to excercise "scientific and educational statesmanship". The support of the foundations meant American researchers were not subject to "capricious individuals or changing legislatures".[20] The approach in South Africa was similar to that in Australia and Canada. Their research institutes, following the British plan, were centrally supported with the assistance of an external advisory board. Malherbe did not perceive any problems with the organizational location of the Bureau in the national education bureaucracy: quite the contrary. The Bureau's location had the advantage of allowing unrestricted access to the whole school system and the universities. Moreover, Malherbe felt comfortable with the "liberal-minded men in charge of affairs", the Ministers of Education, first D. F. Malan and later J. Hofmeyr. His affinity to the educational leadership also included the Secretaries of Education, whom he described as "good academic men ... who had a feeling for research". Despite the Bureau's location, Malherbe claimed that he was afforded considerable intellectual freedom.[21] This "freedom", however, may have been little more than a by-product of a common ideology shared by the education mandarins.

1. The Poor White Study

Although the Carnegie Investigation on the Poor White Question was not technically a Bureau project, Malherbe served as one of the key researchers. The significance of the Carnegie Commission for an understanding of the Bureau lies not in the part Malherbe played, however, but rather in the paradigmatic precedent that the Commission set for the relationship between social science and policy making.

By the 1920s, a combination of factors, economic, social and ecological, had contributed to the expansion of a class of impoverished whites who were unable to eke out a living on the land. The spread of capitalist agriculture compounded by excessive subdivision of land, overstocking, drought, disease and the devastation of the South African War all contributed to the escalation of rural white poverty. There was, however, considerable variation from region to region. Ecological factors were important in the Knysna/George and Northern Transvaal regions, for example, where the lack of calcium in the soil and malaria and bilharzia caused health problems. As the vast majority of poor whites were Afrikaans-speaking, the Dutch Reformed Churches took on the responsibility for caring for the destitute. Until 1924, with the election victory of the Pact government, the State had taken no direct action on behalf of this group, although indirect measures such as the 1913 Land Act and substantial State spending on white farming did assist them. After Pact's election victory on the platform of "civilised labour", Hertzog proceeded to increase the employment of semi-skilled and unskilled white laborers in various government departments such as the Railways, at the expense of black

workers. Despite these measures, the problem persisted, becoming more acute as the Depression deepened in South Africa.[22]

At the height of the concern about the plight of the "poor white", Dr. F. P. Keppel, President of the Carnegie Corporation, who was touring the dominions to assess the most effective strategy to allocate the special fund Andrew Carnegie had set aside for "the Dominions and Colonies" visited South Africa. Dr. Keppel's principle contact in South Africa was the young University of Cape Town academic, E. G. Malherbe. They had become acquainted a number of years earlier when Malherbe was a student at Columbia and Keppel had been dean at the university.[23] At a meeting in Cape Town in 1927, the two men discussed possible research projects which could be supported by the Carnegie Corporation. Malherbe showed Keppel an article which he had published eight years earlier on the need for a scientific study of the poor white problem. In it Malherbe had written:

> Today we have over 100 000 so-called 'Poor Whites'. They are becoming a menace to the self-preservation and prestige of our White people, living as we do in the midst of the native population which outnumbers us 5 to 1. We shall never solve the Poor White problem adequately until we get thorough and first-hand knowledge of the causes underlying this malady - the cumulative result of some maladjustment in our society in the past. The causes seem to be more psychological than otherwise. Much has already been done. But what is needed more than anything else is a case study of each of the hundreds of families. We must get down to the very bed-rock facts, by living right with these people and thus tracing carefully the personal history in each individual case. Only when we have made a correct diagnosis and are certain of the causes can we remedy them. Much of the praiseworthy efforts of the past failed to bring the expected results because some factors had not been sufficiently investigated. Such work can be done satisfactorily only by men trained in psychological, economical and sociological research. The results must be published so as to be accessible to the whole of the public.[24]

Keppel was evidently impressed with Malherbe and agreed to fund the proposed investigation. In planning the study, Malherbe outlined a five-pronged "attack". The investigation would take a multi-disciplinary approach, examining the problem from economic, psychological, educational, health, and sociological perspectives. He then carefully laid the ground work by consulting with and gaining the cooperation of all the relevant government departments and the Dutch Reformed Churches. A local branch of the Carnegie Corporation, the Carnegie Trust Fund for South Africa, was formed to oversee the project. The Carnegie-appointed trustees hired Malherbe as the educational researcher, Dr. J. F. Grosskopf as economist, Dr. R. W. Wilcocks from Stellenbosch as psychologist, Dr. W. A. Murray as the health researcher and an American sociologist Dr. Butterfield and later Dr. Coulter to assist the Rev. J. R. Albertyn with the sociological aspects of the study. The study also had a gender component which was conducted by Mrs. M. E. Rothman.

Beginning work in 1929, the team of researchers travelled thousands of miles in a new Model T Ford, visiting the most remote villages in the country. During the course of their year on the road, the team amassed huge quantitites of "data". Malherbe focused on the collection of biographical case studies, standardized tests, and information from schools inspectors, principals and teachers. He had in mind questions about the holding power of the school; vocational guidance; retardation, failure and poverty; size of family, free education and dependence; and the educability of the "poor white".[25]

Two years later the Investigation Report came out in five volumes. The Commission found that the poor white problem was principly a social and economic problem caused by the onset of capitalism in agriculture and the traditional Dutch land inheritance practices. The final reports did however point to the psychological, health and nutrition, and genetic dimensions of the problem. Malherbe's report on education analyzed the relationship between poverty and failure, retardation, and drop out rates; educational attainment and size of family; intelligence of the poor white; and the effects that free education would have on fostering dependency. In case study after case study, Malherbe found that poor white children had high failure, repeater and elimination rates. He attributed their poor school performance to malnutrition, general ill-health, and inadequate schools.[26] For Malherbe the most important "facts" he discovered concerned vocational aspirations of poor white youth. Almost 60% of "poor white" male teenagers who had chosen farming as their occupation in his survey had not completed a basic primary school education and less than five per cent had any agricultural education. In Malherbe's view, these "facts" revealed a need for more basic and agricultural education, as well as vocational guidance and differentiated education. He advocated the increased provision of education in rural areas and the professionalization of social work.[27]

Malherbe regarded the Poor White Study as the model study in which the social scientists had made a major impact on social policy.[28] Fifty years later Malherbe recalled:

> People in South Africa had all along felt uneasy about the Poor white problem. It was however, as a result of the fact-finding report of the Carnegie Commission that concerted action actually followed and is still following. In the first place the Commission indicated in definite terms the scope of the problem. It established that there were over 300,000 poor whites. It established that these people were not hopeless human material to work on - their average intelligence being only slightly lower than that of the whole white population; their inferiority was due largely to factors of *nurture* rather than *nature* - chief of which were malnutrition and deficient education.[29]

The real significance of the Carnegie Commission lay in its approach to social problems. The research teams' "facts" had effected social change. The effectiveness of the intervention added prestige to the paradigm of the social scientist as policy maker. The Investigation had other less visible consequences. Although it was certainly not the first scientific study to segregate the social world along race lines, it entrenched this trend. The problem of poverty was not, in fact, a "white" problem, but a structural problem of low wages and economic depression, it was multiracial poverty which was defined in white terms.[30] The division of social and educational research into black and white became a characteristic trade mark of the research conducted under the auspices of the Bureau. At another level, the Poor White Report marked a shift in institutional responsibility for dealing with the consequences of capitalist development from the churches to professional social workers. This was reflected in the changing status of white poverty changed from "moral failure" to "social problem". Finally, in a the related process, the Carnegie Commission was a turning point for State involvement in white "social problems." Education would become a key element in State sponsored social work strategy.

2. Intelligence Testing

One of the main aims of the National Bureau for Social and Educational Research was the promotion of intelligence testing. It did this by sponsoring the standardization of new testing instruments, providing the financial support for large scale testing of specific populations and publishing the results of these investigations. The Bureau's intelligence testing initiatives would served two distinct functions. In white schools, intelligence tests provided the means to channel certain pupils into separate schools and separate curriculum tracks. By the 1920s, "sub-normal" white pupils would be assigned to "special" institutions. By the 1940s, principals of comprehensive white high schools began to use the Bureau's I.Q. tests to channel pupils into ability groups to be assigned to a particular curriculum track. The introduction of intelligence tests in white schools presumably had the consequences that it had elsewhere in the world: it reproduced the existing class structure through the seeming neutrality of science.[31] In black education, intelligence testing would come to serve a slightly different function. The Bureau's sponsored research of African intelligence would add a "scientific" discourse to the national policy debates about the provision of education for the majority of South Africans.

At the time the Bureau began operating, intelligence testing was in its infancy in South Africa. There were only a few trained psychometricians in South Africa. Some of the most active individuals in the field had no formal training. In the 1910s, Dr. Louis Leipoldt, the Medical Inspector of Schools in the Transvaal, and Dr. A. M. Moll adapted the Knox, Healy, Goodard and Binet-Simon Scales intelligence tests for use in South Africa. They used the adapted tests to provided an "objective" basis for selecting certain "mentally-deficient" pupils for a special school in Troyville, Johannesburg. Close on their heels, the Natal Education Department introduced some elementary intelligence testing for a similar purpose. At the University College of the Orange Free State, Professor Eybers, the first American trained psychometrician, made the first attempt to standardize the Grey Revision of the Binet Terman Individual Intelligence Scale for South Africa. In the Cape, the impetus for I.Q. testing came from the Suid-Afrikaanse Onderwysersunie who sponsored the standardization of an entire battery of tests for Afrikaans-speaking pupils. At the Witwatersrand University, Professor R. F. A. Hoernle, the Head of the Department of Philosophy, took a leading role in constructing tests designed to scale normal pupils' intelligence. During the twenties Prof. Hoernle conducted a survey of the intelligence of 20 000 white pupils in the Johannesburg, East Rand and Pretoria areas.[32]

Although schooling was primarily a provincial responsibility, the major initiative for the growth of intelligence testing came not from the provincial departments and the teachers training colleges, but from the universities and various Union government departments. During the early 1920s, the Union Department of Mental Hygiene employed Dr. M. L. Fick, a Harvard trained psychometrician. Not long after his appointment, he published the first "Official Mental Hygiene Individual Scale of Intelligence". Fick constructed the instrument by adapting the Terman Revision of the Binet Intelligence Scale, and non-verbal tests such as the Worster Form Board, the Knox Cube Test and the Porteous Maze Test. Fick revised his "Official Mental Hygiene Individual Scale" in the early 1930s and published the results in the Bureau's research series.[33] Within the Union bureaucracy, responsibility for the development of intelligence tests moved to the Department of Education with the establishment of the Bureau in 1929.

Malherbe was an I.Q. testing enthusiast. While at Columbia University he had trained with Edward Thorndike, America's foremost educational psychologist, and acquired considerable practical testing experience. Malherbe's interest in intelligence testing was further stimulated by his work on the Poor White Investigation. During the course of the investigation, he tested over 15 000 white pupils in 170 schools in the Cape, Natal and the Transvaal.[34] The aim of the intelligence tests administered during the Poor White Investigation was to assess "group intelligence" for policy purposes, rather than individual tests for the purposes of educational selection. Malherbe found that the average intelligence of the poor white was not significantly below the white population as a whole. This "fact" meant that poor whites were not genetically inferior, but were merely the products of adverse environmental conditions which could be corrected with appropriate education, vocational guidance, and social work.

The idea that group intelligence testing could be used as an instrument of social planning gained wide acceptance during the 1930s. By the mid-thirties, the Bureau was providing substantial support for policy oriented intelligence research. For Malherbe, testing had become "indispensable for comparing the scholastic achievement of different parts of the country, and for ascertaining the efficacy of different methods of teaching and school organization". Malherbe himself had conducted some of this research as member of the Inter-department Committee on Native Education (1935-1936). Using the tests standardized in the Poor White Investigation, Malherbe tested 11 000 Standard VI African pupils, and found they were scholastically two years behind their white counterparts.[35] Malherbe draw the same conclusion that Charles Loram had come to two decades earlier. Loram had attributed the difference in performance on the achievement tests to "environment" factors rather than innate inferiority.[36]

The research on racial intelligence reached a peak in the middle of the decade. By then three distinct positions had emerged. The government psychologist Laurence Fick was the most outspoken defender of white intellectual superiority. Prof. Hoernle of Witwatersrand University represented the position that differences in achievement were the products of environmental factors. A third position, one which seemed to receive little attention, argued that intelligence in different "cultures" was not comparable. Measurements designed for one race could not be applied to another. These three positions emerged at the Carnegie-sponsored New Education Fellowship Conference in Cape Town and Johannesburg in 1934.[37]

Contrary to Rich and Dubow's claim that there was no strong tradition of scientific racism in early twentieth century South Africa, the volumes of research on the intellectual capacity of the "native" suggest otherwise.[38] Moreover, the debate about the potential "educability of the native" was a central theme in the educational policy discourse of the time. Rather than reflecting the prevalence of racism in commonsense thinking, as Rich and Dubow claim, the existence of a substantial body of comparative intelligence research may indicate that commonsense racism was in fact being contested. Certainly, in the area of education, some liberal academics and missionary societies publicly rejected notions of white intellectual superiority.[39]

In the aftermath of the conference, white supremacist psychologists began to develop new levels of sophistication in their efforts to produce conclusive evidence. Professor J. A. Jansen van Rensburg of the Department of Psychology at Stellenbosch University was a leading figure on the white superiority side of the debate. With a grant from the Bureau, van Rensburg constructed a study which, he hoped, would silence critics' objections by eliminating

> all the factors which might influence the Native adversely, with the purpose of determining whether there is any inherent difference in the ability of the Natives and Europeans in South Africa in regard to their ability to obtain high scores on tests.[40]

To prove the hypothesis, van Rensburg used four tests to measure intellectual performance on non-verbal activities. These included the double-handle test of Moede, a mirror-drawing test, a sorting test, and a maze test. The new tests, van Rensburg believed, would not only predict ability to engage in activity in the absence of training, but more importantly, would predict capacity to absorb training and to learn from experience. Van Rensburg described his results in the cautious language of a trained scientists, "It would seem from the foregoing investigation that the South African Native has not the learning ability to be able to compete on equal terms with the average European, except in the tasks of an extremely simple nature."[41] Moreover, van Rensburg believed that he had shown sufficient evidence to conclude that differences in ability were the result of innate intellectual inferiority rather than environmental factors.

Van Rensburg's study received critical acclaim both in South Africa and in the United States. In a letter to Malherbe, Jackson Davis, head of the Rockefeller Foundation funded General Education Board wrote, that although he was generally skeptical of scientific studies of "negro intelligence", particularly the work of Dr. Ferguson, he believed that van Rensburg's work was genuinely "scientific". In his view, "it is a great gain to have the question of racial differences, about which there is so much emotional feeling, approached in a genuinely scientific manner, and I have a deep sense of appreciation of your own influence in this field and of the significant studies that are going on at Stellenbosch, Capetown, and Johannesburg."[42] Davis' remark strongly suggests that racial science, rather than being peripheral to mainstream scientific investigation, was a central project in the history of South African social science, a project for which South African social scientists earned international recognition and respect.[43]

Van Rensburg left his colleague, Laurence Fick, to spell out the policy implication of his findings. As the senior researcher in the field, Fick was in the position to produce the definitive word on "the educability of the native". Fick did not shy away from overtly racist conclusions. In a Bureau monograph, Fick described the evidence for a direct and causal link between race and ability:

> The inferiority of the Native in educability, as shown by measures of their actual achievement in education, limits considerably the proportions of the Natives who can benefit by education of the ordinary type beyond the rudimentary. These limits have, however, not been reached by a long way at present... . Although all the facts regarding the educability of the Native may not be in, the available objective data point to a marked inferiority on the part of the Native in comparison with Europeans. This inferiority occurring in certain tests in which learning or environmental conditions are equalized for the Native and the European groups does not appear to be of a temporary nature.[44]

The Bureau's publication of Fick's monograph, *The Educability of the South African Native*, was perhaps the high watermark of racial social science in South Africa. In subsequent racist science, the more acceptable concept of "culture" would be substituted for "race." But for the purpose of this essay, it is not the scientific *research per se, but how social scientists* understood the relationship between social science and the policy making process, that is interesting. Both the environmentalists and the innatists shared a common belief that "scientific facts" should drive policy making. The Bureau's role in the research on intelligence was not about some abstract concept of the "advancement of knowledge". Quite the contrary. Under the influence of the Bureau, intelligence research was part of a broad approach to directing educational policy.

3. Native Education Surveys

Debate concerning African education was seldom heard in the chambers of parliament in the inter-war years. When it was debated, it was discussed in terms of financing or "native administration." Conflict over the aims and provision of schooling for Africans was concentrated in a series of national commissions which reflected the conflicting ideas and approaches within political circles in the middle 1930s. The ad hoc approach which characterized African education policy was becoming increasingly problematic, given the systematization of segregation legislation, which culminated in the Native Trust and Land Act of 1936 and the Natives Representation Act. Within the ruling class, different tendencies with different visions found expression in three reports, the Native Economic Commission of 1932, the Inter-Departmental Committee of Inquiry 1935-1936, and the Native Affairs Commission Report of 1936.[45]

The release of the Native Economic Commission's Report of 1932, which advocated "social education", aroused a heated debate in educational circles. It proposed nothing short of a fundamental reform of the aims, content, and governance of African education. As the commission dealt only tangentially with education, clarification on State responsibility and the aims of education was needed. It was within this context that the Interdepartmental Committee on Native Education was established. The Committee, appointed by the Union Minister of Education, included the provincial chief inspectors of native education, W. T. Welsh, the chairman and a member of the Provincial Council, and Dr. E. G. Malherbe. Malherbe's place on the committee was prescribed by his office. As director of the National Bureau for Educational and Social Research he was required to sit on all interdepartmental committees dealing with educational matters.[46]

According to the terms of reference, Welsh was instructed to investigate the different provincial policies, the content of education, and the control of education, specifically the relationship between state and missionary organizations. While the committee under Welsh went about listening to evidence in old-style commission hearings, Malherbe pushed ahead with his own approach making considerable use of the resources of the Bureau.

Rather than doing the research himself, Malherbe instructed P. A. W. Cook, a senior researcher at the Bureau, to conduct a series of surveys which would inform the work of the committee. Cook was the obvious choice. Only a year earlier, he had completed his doctoral dissertation at Columbia University on African education.

During his training at Teachers College, Cook had worked with George Strayer, the leading figure in the school survey movement.[47]

Cook embarked on an ambitious project of conducting detailed empirical surveys of African education. Although the research was conducted specifically for the Welsh commission, Cook's research did not find its way into the Interdepartmental Committee's final report, but was published in monograph form by the Bureau.[48] *The Native Student Teachers*, the second of Cook's three reports, contained the results of arithmetic and English vocabulary achievement tests with African student teachers and a questionnaire administered to 3 344 African student teachers at the end of 1935. Not surprisingly Cook found that there were insufficient qualified teachers being produced to meet the rapidly expanding demand, despite the rise in the numbers of new teachers being certified. The questionnaire revealed some very interesting "facts" about the academic and social background of these student teachers. Over 60% had failed at least one class at the primary or training level, only 36.9% of those in the highest level of teacher training had succeeded in reaching that level in the minimum period of three years after Standard VI. Cook interpreted these "facts" as an indication of inefficiency in the system of teacher training. High levels of repetition were expensive and wasteful. Additional proof of the inefficiency of the teacher training system emerged in the results of the achievement tests.[49]

The survey provided more than just a picture of the status of teacher training: it revealed a good deal about the social and economic background of African student teachers. Cook found that African student teachers came from a small and economically privileged class. They were distinctly urban in orientation, which was reflected in the fact that half attended the bioscope regularly. As a rule, these student teachers were devoted Christians affiliated to a few dominant denominations. Despite their urban orientation, significant numbers of student teachers indicated that they would prefer to live in the "country" rather than in town, but teach in large rather than small schools. Perhaps the most important of Cook's socio-economic findings was that almost all female teachers expressed a preference for lower standards and teaching in an African language.[50]

Cook's follow-up survey of African teachers in the Transvaal confirmed his earlier findings. All parties involved in African education agreed that the system had insufficient resources.

> The ideal for any school system is to have teachers as well qualified as possible. The teachers of most the elementary classes should be as well prepared for their task as those who function in the senior standards. But such an ideal at present lies beyond the attainment of Native schools in the Transvaal, and the strong probability is that, for many years to come, the funds available for the training and employment of teachers will be so meager in comparison with the demand that a percentage of teachers will of necessity remain both unqualified and poorly paid.[51]

For Cook, the real problem was not the inadequate financial provision for African education, which he took as given, but rather the inefficient utilization of those meager funds. Cook found that the majority of qualified teachers taught in the upper classes, whilst the vast majority of pupils left school before receiving any instruction from qualified teachers. Cook also found "waste" in the high numbers of qualified teachers who left teaching before retirement age and the high rates of unemployment amongst qualified teachers. This

waste he attributed to low salaries, lack of pay increments and the absence of pension schemes. Other factors such as lack of adequate housing and job security also contributed to high staff turnover and high attrition amongst qualified teachers.

In order to improve the efficiency of the system, Cook advocated the application of "job analysis". This analysis would focus on "what jobs have to be accomplished, [and] how many children have to be taught up to various standards". Cook believed a "job analysis" would reveal that "the maximum efficiency in teacher training would be attained by giving *every* teacher a *prescribed minimum* of training required by the particular teaching job awaiting him." The three year teacher training course was irrelevant and wasteful for the majority of teachers whose responsibility it would be to teach at the lower primary level. It could be replaced with a one year teachers certificate with lower academic entrance requirements. These teachers would be trained specifically to teach lower primary. Such a certificate would be targeted for women, as "a body of qualified women would be acquired for Native schools at a somewhat lower cost than if men were employed". And, as he found in the survey of student-teachers, women would be far more willing to be trained to use the vernacular as the medium of instruction.[52]

The commissioners dragged their feet when it came to assisting the Bureau with its survey. And when the report was finally published, few of the "facts" Cook collected from testing, surveys and questionnaires appeared. Instead, the content of the report reflected evidence presented by the liberal network, the English mission school teachers and administrators. Its recommendations on the aim, content and control of African education were derived from moral arguments or anecdotal testimony of practitioners rather than social science facts gathered by experts.[53] Whereas the liberal commissioners wanted to present a moderate challenge to segregation in education, Cook's technicist approach accepted the racial world as he found it. The commissioners' passive neglect of Cook's "facts" could be interpreted as a defensive response to the new policy making paradigm, a paradigm which did not recognize the moral authority of "Church truths".

4. Systematizing Educational Measurement

In 1935 the Southern African Conference of Headmasters and Headmistresses, which represented the exclusive white private schools in the Union of South Africa and Southern Rhodesia approached Jan Hofmeyr, the Minister of Education with a petition. They urged Hofmeyr to set a minimum age of seventeen for access all South African universities and establish a post-matriculation class in all white secondary schools. In a memorandum submitted to the Minister, the school heads argued that pupils of average ability were matriculating at sixteen and proceeding to university before they were emotionally or intellectually ready. Hofmeyr responded to the proposal by approaching the Joint Matriculation Board, the major examining body in South Africa, with a request to analyse its statistics to determine if this observation was factually correct. In the course of the bureaucratic process, the matter was referred back to the universities and the Provincial Education Departments. Each department and university nominated a member to sit on a national committee to look into the matter. The Bureau was in turn requested to collect and collate all the data and write a report for the Minister.

Malherbe took responsibility for directing the research. He constructed the study around a set of empirical questions: "How old are South African students when they go to university? Are they entering at a lower age than formerly?" Not surprisingly, the study was restricted to white pupils and students. Malherbe assembled a team at the Bureau to analyze the matric exam records of high school pupils in the four provinces over a six year period and the cumulative university records of over 8 000 first-year university students in all of South Africa's universities. In addition, Malherbe himself conducted a detailed survey of 4 000 university students.[54] The Bureau team found that in 1934 the median age of South Africa's university students was 18.3; well within international norms. The percentage of students under 17 years of age at university was relatively small. Contrary to the Headmasters' expectations, younger students tended to perform better than their older counterparts. The "facts" swept aside the private schools' assertion. Hofmeyr wrote in the preface to the Bureau monograph: "I would however emphasize that after [the Bureau's] investigation it is no longer possible for the enactment of a minimum age of entry to our universities."[55]

This decisive empirical intervention epitomized Malherbe's conception of social science in the policy making process. But rather than settling the question of the relationship between secondary and tertiary education, the study seems to have rekindled Malherbe's interest in educational measurement.[56] Malherbe had found troubling evidence about the inefficiency of the matric exam as a prognostic instrument. The matric results were poor indicators of future university performance.

The Bureau's study of the age of university entry coincided with major developments in secondary school assessment internationally. In the United States and to a lesser extent in Europe, the rise in secondary school enrolment after the First World War and particularly during the Depression forced educators to rethink the role of secondary schooling. What was traditionally the exclusive domain of the elite was increasingly becoming an institution open to the masses. The response to the democratic trend toward greater inclusivity, was undemocratic attempts to find a means of internal differentiation. Educational leaders attempted to transform the high school curriculum from the common classical base which prepared all pupils for university to diversified curriculum based on the perceived futures of particular types of pupils. New vocational and technical institutions and courses at the secondary level were introduced in Europe and North America. Given the popular appeal of secondary schooling, educational authorities in Europe also needed to develop a new mechanism to select certain youth for universities. The old examination system was criticized for being both unreliable and ineffective for selecting and apportioning educational opportunity.[57] Leading the attack on essay exams was the New Education Fellowship, the European counterpart to the U.S. Progressive Education Association. Its offensive culminated in a series of conferences, organized by NEF and funded by Carnegie. During the 1931 conference held in Eastbourne in England, leading European educators, scientists and statisticians came together to establish the International Institute Examination Inquiry. The Inquiry eventually published its findings in 1936 in two stinging reports, *An Examination of Examinations* and *The Marks of Examiners*. In the same year, I.L. Kandel of Teachers College followed this up with a summary of developments in the debate. Kandel's book included extensive "data" on the weaknesses of the French, British and German examination systems, concluding with motivation for adopting an American style approach to assessment.[58]

During the height of this international condemnation of traditional examinations the Bureau was commissioned by the Joint Matriculation Board to do a thorough assessment of South Africa's examination system. In his keynote address to the South African Association for the Advancement of Science Congress in 1938, and later in the Bureau's "Report on the Reliability of the Matriculation Examinations", Malherbe presented the "facts" about the matriculation examination.[59] Malherbe's analysis of ten years of JMB matriculation revealed "extreme variability" of results across subject areas within and between years, variability in the aggregate results between years, and variability between the examining bodies. He asked rhetorically:

> How can this be possible when the syllabus and the requirements...are exactly the same? Is it possible for example, that the science teachers in one year have all of a sudden have gone stale, while in the same year the language teachers do twice as brilliant work as in the previous year? Can it be that the pupils of a whole province... have suddenly in one year become bereft of learning capacity? It will be a bold person to answer these question in the affirmative.... Will it not be more reasonable to assume that the variability lies with the standard of these examination papers and their marking?[60]

In his view, the extreme variability indicated that the examinations were just plain unreliable. In Malherbe's judgment, both the instrument and the marking was problematic: "even if the papers were equal, unless they were of such a nature that the marking was objective and standardized, actual scientific research has shown the extraordinary unreliability of the most expert examiners." The problem lay in the irregular judgment of individual examiners when using "the traditional kind of examination paper". Malherbe cited the extensive research that had just been published in Europe on the low reliability of traditional marking systems.[61] Malherbe recommended a way out of the mess. All marks should be re-scaled on a normal distribution curve. In his view, "not only should the normative curve be used for securing reliability from year to year in the same subject, it should also be used to standardize all subjects in the same year." To eliminate the problem of unreliable markers, Malherbe proposed that the new examination should consist of "short form tests". The new type tests would measure only what they were designed to measure. They had the added advantages of being accurate, consistent, comprehensive, eliminating the subjective aspect of the examiner. Above all, short form tests were inexpensive and easily administered, even if they would take longer to prepare.[62]

Malherbe made two crucial assumptions about assessment. The first was that learning, like intelligence, was a unitary and narrowly defined trait. It had no varieties or different features, only ranks. The second was that learning performance could always be plotted on a normal curve with a fixed percentage of students falling within one and two degrees of significance from the median. Thus individuals could always be ranked in stable ways so as to prepare individuals for their inevitable futures. In Malherbe's proposed system, students would be measured against the performance of the group. Malherbe's recommendations would have meant a radical departure from existing assessment practices. By emphasizing the measurement of individual difference, rather than academic progress, the examination effectively shifted from serving a pedagogical function to serving a social function. The examination was not a test of effective learning, but a selection process to determined the future careers of pupils. Malherbe's proposal would shift control of the examination from subject examiners to statisticians. He understood this when he wrote "the general adoption of the practice

of re-scaling marks will necessitate a certain reorganization of the offices of the examining bodies. It will be necessary to appoint trained statisticians to take charge of the re-scaling process."[63] With statisticians hired to adjust the matriculation results and the test design experts, Malherbe's testing reforms may have led to the development of a massive testing bureaucracy not unlike the Educational Testing Service of Princeton, New Jersey.

In 1939, Malherbe submitted "The Report of the Bureau of Education on the Reliability of the Matriculation Examinations" to the controlling examination body, the Joint Matriculation Board, for its approval. In a surprising move, Malherbe's report was unanimously rejected by the committee.[64] The members of the committee were unhappy about the way in which Malherbe had consulted the Joint Matriculation Board. Moveover they rejected his conclusions about the causes of the matriculation result variability. In the rejection letter, the committee argued that the examined student body was not stable from year to year. During the past twenty years the provinces had began to examine their own students, which had meant that the number and quality of students sitting for the JMB examination had changed dramatically.[65]

Little seems to have come of Malherbe's report. At the end of his career, Malherbe reflected with deep regret how little the matriculation examination system had changed in his life time. He believed that matric remained unrealiable. Although standardized scholastic tests had been designed by the National Bureau for Education and Social Research and by its successor, the Human Sciences Research Council, they were never used in public examinations.[66]

5. Studies in Bilingual Education

More than any other educational issue, the medium of instruction, the language children are taught in, has been at the epicenter of South Africa's school struggles. This is not surprising given that language is so closely tied to cultural domination and economic oppression. The long history of the struggles over school language dates back to the earliest days of European conquest and colonization. Traditional accounts tend to ignore the subjugation of pre-colonial societies, beginning their accounts with the imposition of the English language on the Dutch settlers in the early 19th century.[67] Immediately following the South African War, the British colonial government under Lord Milner adopted an aggressive policy of the anglicization of the defeated Boers. This policy met with considerable resistance, which was expressed in the establishment of alternative Christian National schools. In an uneasy settlement, the 1910 Union constitution made English and Dutch both official languages. The provincial ordinances that followed Union, the Transvaal, the Cape and the Orange Free State made mother-tongue instruction compulsory up to and including Standard IV, after which parents had the right to have the "other" language introduced as a supplementary medium. In schools where there were children of both language groups, provision was made either for parallel classes or teachers who could teach through the medium of both languages. Natal, on the other hand, pursued a policy based on the principle of parental choice. In effect this meant that some Afrikaans-speaking children in Natal were taught in English. Although Afrikaans was officially substituted for Dutch in 1914, this change was only gradually implemented. Despite the equal status of both official languages, English continued to be predominant in the secondary schools.[68]

The struggle over the language of instruction was an extension of the broader struggle for Afrikaans equality. Isabel Hofmeyr describes how, in the first decades of the 20th century, a young generation of Afrikaner intellectuals attempted to constructed an alliance between the Afrikaner bourgeoisie, petty-bourgeoisie and working class by "building a nation with words". In her view, these innovative intellectuals constructing a distinctive Afrikaner identity through the systematic revision of a vernacular.[69] The effort to construct a distinctive Afrikaner identity, and cross-class alliance suffered a temporary setback when Nationalist leader J. B. M. Hertzog abandoned a republican ideology and enter into a political alliance with the South African Party in 1934. This move seriously undermined efforts to build Afrikaner economic, political and social nationalism. The establishment of the Gesuiwerde Nasionale Part, which campaigned under the "free the oppressed Afrikanerdom from the yoke of British imperialism" was an attempted to recaptured the political initiative. At the center of the nationalist campaign to consolidate working-class Afrikaner support was a demand for an extension of compulsory mother-tongue instruction through secondary school.[70]

By the mid-1930s Natal had become the battleground of the language struggle. Unlike the other provinces, it had retained a policy of parental choice rather than compulsory mother-tongue instruction. A significant number of Afrikaner parents continued to choose English as the medium of instruction for their children. Nationalists perceived this as a real threat to the very existence of the "volk". Natal Afrikaners were sure to be denationalized by an English education. The controversy eventually forced the province to establish a commission of inquiry to look into the matter. The Broome Commission, after lengthy consideration, recommended against a rigid law on mother-tongue instruction.[71] The language conflict also came to a head in the Transvaal Provincial Council's Commission Report on Education. The members of this Commission could not agree on an appropriate language policy for the Transvaal, with five members recommending that the existing language policy be maintained, whilst a minority recommended substantial changes. The disagreement centred on what to do about small rural communities. In these communities it was common practice to have Afrikaans and English-speaking children attend the same schools. These rural schools either used a dual language approach, moving back and forward between English and Afrikaans, or established parallel classes within one school. Dr. William Nicol, the author of the minority report, rejected the dual and parallel medium school practice, arguing that it was unsound on both educational and psychological grounds. The minority report called for the complete separation of English and Afrikaans learners to prevent "one culture from swamping the other".[72] Rather than resolving the complex issue, both the Broome Commission in Natal and the Transvaal Provincial Council's Report polarized the debate. Both camps attempted to co-opt the language of science, although little "scientific" research had been conducted on the consequences of bilingual instruction.

This was precisely the role that Malherbe had envisaged the Bureau playing. Whereas the commissions had relied on "vague feelings", the Bureau would uncover the "facts". Definitive scientific facts would "penetrate and cut with devastating precision" resolving the issue once and for all. As the director of the Bureau, with an international reputation as an objective social scientist with considerable experience, Malherbe believed that he was well placed to make this decisive "factual" intervention.[73]

In 1938, Malherbe embarked on an ambitious project: to establish the degree of bilingualism attained by white children, both English and Afrikaans, and identify the factors which determined what he referred to as "linguistic growth". With the assistance of Fick, Cook, and Brummer, all well respected social scientists at the Bureau, Malherbe surveyed 18 773 white Standard IV and X students in the Transvaal, the Cape and Natal. Each student was required to complete twelve standardized tests which included a battery of intelligence tests, language proficiency tests and a complete case history. Teachers filled in long questionnaires about the school facilities to establish the nature of the sample. Malherbe and his team analyzed the results using age, standard, intelligence quotient, economic environment, and type of school organization as dependent variables.[74]

The research was completed in 1939, the same year Malherbe was appointed Director of the Bureau of Census. The project was put on hold. After South Africa entered World War Two and the Bureau was closed, the research faded further. In fact the full results of the survey were never published. But while serving as the head of South African Military Intelligence in North Africa, Malherbe felt compelled to publish some of his preliminary findings from the bilingual survey.

The booklet, entitled simply *The Bilingual School*, argued that over 40 per cent of white South African children came from bilingual homes. From this Malherbe concluded that:

> the bilingual school with dual medium instruction would, in the case of bilingual groups... have given expression much more truly to the principle of home language medium than the unilingual class (or school) system into which most of these children had been forced.[75]

Malherbe went on to describe the effects of bilingual education on students' academic and psychological development. He found that even in the most extreme cases where children received instruction in the "wrong" medium, they suffered only an initial disadvantage. As a student progressed to higher standards, the medium seemed to become of decreasing significance and had no observable adverse effects. Moreover, when Malherbe compared unilingual and bilingual language achievement, he found that "bilingual school offers no handicap in the study of the mother-tongue". Malherbe also found that sectional discrimination (anti-English or anti-Afrikaans sentiment) was three to four times greater in unilingual schools than in bilingual schools. He concluded the booklet with the simple observation, "according to these facts the advantages of the bilingual school over the unilingual school are clear."[76]

The Bilingual School is perhaps the clearest statement of Malherbe's social epistemology. In unequivocal terms Malherbe spelled out what he thought really counted as authoritative knowledge. "Opinions", Malherbe asserted, "even though they are the result of years of experience with education in South Africa and overseas, are ... subjective." "The facts", however, "are the facts and must be accepted until the opposite is proved." Malherbe's "subjective" chapter was a closely reasoned philosophical argument for bilingualism, based on the Deweyian concepts: utilization of environment, enrichment of environment, school as a reflection of the life of the community as a whole, and learning by doing.[77] Philosophy was subjective, but the facts were the really real,

they somehow spoke for themselves. In this sense, Malherbe the American-trained social scientist was the product of Edward Thorndike's positivism, and not of John Dewey's pragmatism.[78]

Malherbe was committed to popularizing his findings. Unlike other monographs published by the Bureau which had runs in the hundreds, twenth thousand copies in English and Afrikaans were printed by the Central News Agency.[79] Special permission had to be obtained from the Paper Controller for the large edition. To ensure wide circulation, Malherbe hired Union Unity Truth Service, a public relations firm, to publicize the booklet. The firm printed 20 000 fliers which were circulated to headmasters, ministers of the Dutch Reformed Church, university lecturers, professors and libraries. The organization also distributed the fliers in cinemas in the platteland.[80] This major publicity effort reflected Malherbe's belief that this struggle needed to be waged in "public". It is interesting to contrast this with his attempts to reach the "public" during the Poor White Investigation ten years earlier. Following the publication of the Poor White Investigation, Malherbe organized conferences which drew together organizations within civil society. Ten years later, Malherbe was addressing himself directly to the "public". This new approach may be indicative of the difficulties in organizing conferences during the War years. It may also reflect the widening gap between organizations like the D.R.C. churches and F.A.K. and moderates like Malherbe.

Even before the booklet was launched, organized opposition began to surface. In the middle of 1941 Malherbe made a radio documentary on bilingualism for the South African soldiers in North Africa. When local nationalist newspapers got wind of the radio programme they dismissed it as "'subtiele' propaganda". The nationalist press accused Malherbe of using Stalinist methods to destroy the "volk" by undermining its language.[81] This accusation resurfaced again in September 1943 as a result of a speech Malherbe gave to the Pretoria Women's Club. In an effort to pre-empt the nationalists, he steadfastly insisted that his research was apolitical. But this was clearly not how the press saw it. The English newspapers and the Afrikaans UP press, which gave it extensive coverage, reported Malherbe's findings as a victory for the United Party.[82] The *Vrystater's* headline read "Opposisie se hele taalpropoganda omver gegooi" (The opposition's entire language position discredited).[83] *The Cape Times* ran a revealing editorial:

> It is a greatest pity that education could not have been left to the educationists instead of becoming the play-ball of politicians. But the Opposition in this country in their determination to try to turn South Africa into a hermit republic have tried to capture the schools as a means of disseminating their policy of narrow racial isolationism, an isolationism which implies a withdrawal not only from the rest of the world but from those South Africans who a small and narrow-minded junta will arbitrarily mark down as "un-natural".[84]

The Times polarized the debate between those who subscribed to the idea of bilingualism, which was the position of science, and those who subscribed to separate schools, which was the position of narrow-minded bigots. The only English dissenting voice came from *The Natal Mercury*, which ran a letter criticizing Malherbe for mixing soldiering and politics when he spoke on the issue of bilingual schooling. The letter questioned Malherbe's claim to neutrality as he had repeatedly made his political allegiance public.[85] Immediately after the release of the booklet, Vervoerd's *Die Transvaler* stood alone in condemning the man they dubbed, "the grandmaster of subtle propaganda."

> Met groot gebaar het hy dan ook te voorskyn getree. Handevol syfers word kwistig rondgestrooi om die aanneembaarheid te probeer aantoon van 'n hele reeks pseudo-wetenskaplike bewerings! Van veraf kan 'n mens egeter al met 'n lang stok voel dat daardie hele statistiese rendensasie niks beteken nie. [86]

In the weeks that followed, the South African League of Woman Voters endorsed bilingualism in schools passing a resolution calling on the Provincial Administrations to change over from single to dual medium schools.[87] This was the first move to connect Malherbe's research to the October election. By the end of September, the nationalist press began to tie Malherbe to a conspiracy to destroy the Afrikaner volk. According to the theory, Malherbe, as the head of Military Intelligence, was at the center of a subtle plot. "Die man wat 'n plan vir die Regening opgestel het waarmee Afrikaners met 'subtiele propaganda' wir die Empire gevang moet word." In this version, the elimination of the Afrikaans school would denationalize 25% of Afrikaner children and thereby deliver them into the hands of Smuts and the British imperialists.[88]

The United Party decided to fight the elections on two platforms, the War and bilingual schooling. In a letter to its UP locals, the party secretary recommended that local organizers intensify their propaganda campaign around the bilingual school issue. For this purpose local organizers received copies of Malherbe's booklet and a summary of his findings. The secretary also suggested that extracts from the booklet be used in platform speeches, house to house visits, and personal manifestos.[89] The language issue was in fact the only major issue of the 1943 elections.

The United Party stood for a common white South African identity, exemplified in the demand for bilingual schools. On the other side, the F.A.K, the D.R.C. churches and the H.N.P. stood for separate English and Afrikaner nations with their own separate schools. Despite the raging controversy in the print media, the election seems to have aroused little popular interest. In Moodie's view, although the election failed to mobilize large numbers of white votes, the campaign brought the Broederbond, the D.R.C. churches, and the H.N.P. together in their common opposition to bilingualism, an alliance which would bring the National Party to power five years later.[90]

By the time of the election, Malherbe had become increasingly defensive about his role in the campaign. In a letter to William Greenberg, the editor of *P.S. Magazine*, he explained that the medium question was for him a purely educational matter which should be decided on educational grounds. "The fact that this matter became a political one in connection with the Provincial election more or less at a time when I got this book published, was something entirely beyond my control. It should be regarded as purely co-incidence that this information became available at the time of the Provincial elections." In another letter an embattled Malherbe wrote: "I could not help it that an election was being fought over an issue which I worked on for 4 years and which I wrote up during the first half of the year before it was a declared party issue. Now the slogan is 'Malherbe and the bilingual school must be smashed', much after the style of the old Romans' cry 'Carthago delenda est!'"[91]

Other evidence suggests that Malherbe was at best disingenuous about his role in the election. He had access to secret information on political developments in South Africa. Hastings Beck, the head of the Censor Board in South Africa, sent him secret documents detailing political developments around the language issue. As early as September 1943, Beck identified the disruption in schools as a potentially explosive conflict. Beck was busy conducting backstage politics, attempting to convince English medium school principals not to oppose dual medium for political reasons.[92] In late September Beck wrote to Malherbe: "Your work on dual medium is getting good support in the Press here - we need it. We have had to take precautions to keep an influential section of the English-speaking teachers from voicing their opposition."[93] Moreover, Malherbe was chiefly responsible for drafting the legislation that was put before Parliament.[94]

While the majority of the nationalist editorial responses couched their criticism in the language of Christian-nationalism or British imperialist conspiracy, a distinct shift is detectable in the aftermath of the nationalists' electoral defeat. The first evidence of the alternative discourse surfaced in *Die Burger* in an editorial entitled "Wetenskaplik!" The opposition press began to report scientific reviews of Malherbe's monograph. Leading this new assault was Prof. M. C. Botha, honorary secretary of Die Afrikaanse Kultuurraad, and secretary of the Afrikaanse Taal en Kultuurvereeging. Other "scientific" critics included Prof. Meiring from Stellenbosch and Mr. Pienaar the head of the Kaapstadse Opleidingskollege, joined the bandwagon.[95]

Criticism of Malherbe's scientific methods peaked in November 1943. Prof. J. A. J. van Rensburg, a well respected racial psychologist from Stellenbosch University, who had worked with the Bureau on racial intelligence testing, launched a direct attack on Malherbe's methodology. The paper was presented in English at a neutral forum, the Cape Town branch of the New Education Fellowship. Prof. van Rensburg began by distancing himself from Malherbe's political detractors, calling on critics to judge the work's methodological soundness. He then went on to show how Malherbe failed to follow the procedures of science. First, Malherbe had not defined the differences between the kinds of bilingual schools. Second, he had not demonstrated that his sample, although large, was genuinely representative. Third, the study had not provided sufficient description of the weighting procedure when variables where examined. Four, the conclusions on academic achievement for students studying in the "wrong" medium went beyond the evidence. Fifth, his findings of levels of bilingualism amongst high school students did not match Malherbe's hypothetical stages of bilingualism. Van Rensburg concluded his devastating critique with the following comments: "The facts presented to us in that book do not prove the efficacy of the method he advocates, namely dual medium schools. Dual medium may, of course, be the best method but Malherbe has not proved it."[96]

Beck attended the N.E.F meeting where van Rensburg attacked Malherbe's booklet. He wrote to Malherbe a few days later that the meeting "struck me as being a staged attack, but impartial in the sense that there was no personal or political animas displayed".[97] The Opposition press had presumably been notified of the impending paper as the next day's headlines read: "Waardeloosheid van Dr. Malherbe se Book: Vakmanne verwerp methodes en Gevolgestrekkings" (The Worthlessness of Dr. Malherbe's book: Experts reject Methods and Conclusions) and Duisterhede in Navorsing van Dr. Malherbe" (Shenanigans in Dr. Malherbe's Research); "Dr. Malherbe se Bevidings is Onderwysemedium Verwerp: As Onweteskaplik Destemel Deur deur valmanne" (Dr.

Malherbe's Findings on Education Medium Rejected: Unscientific as Determined by Experts.)[98] Malherbe was particularly angry with a *Die Transvaler* article which reported van Rensburg's accusation of his work as "unscientific". He was personally offended, "I feel that, if they had any doubt about the validity or the reliability of my figures, they might have had the decency to communicate with me."[99]

Over the next month, a stream of articles, editorials and letters systematically discredited Malherbe as a researcher. Malherbe responded to the details of van Rensburg's criticism in the newspapers that had run a character assassination. He concluded a personal letter to van Rensburg with the comment "I read the *Transvaler*, *Volkblad*, *Oosterlig* and *Die Burger's* reports of your lecture and their editorial comment and see what 'an unhappy emotional attitude' has been awakened by your address - special pleading or not."[100]

Malherbe's colleagues rallied to his defense. A list of supporters included Prof. Reyburn of the University of Cape Town, who was a leading authority on educational statistics; Prof. Cruse of Stellenbosch; two well known educators from O.F.S. University College; Prof. Bosman from University of Pretoria; colleagues from the Bureau; and leading educational administrators.[101] Malherbe compiled a document of extracts of letters of apology from Professors van Rensburg and Taute.[102] Despite these efforts, by December the attacks on Malherbe's scientific credibility seem to have paid off. Even liberal journals like *The Forum*, began to question Malherbe's "facts" even if they wanted to maintain the idea of bilingualism, as the editor wrote: "Even supposing all the figures in Dr. Malherbe's book were false . . . it is still a matter of common sense that (1) our children should as far as possible be educated together and learn to know each other and (2) that they should learn each other's language not merely as school subjects but by using them as instruments."[103] Appeals to "common sense" are a long way from the authority of "science".

Malherbe believed that the Broederbond was behind the attempts to discredit him. *Die Huisgenoot*, a popular Afrikaans magazine, rejected his articles and Afrikaans booksellers returned copies of his book unopened. On another front, the F.A.K. began organizing a general strike involving pupils, students and teachers in protest over the pending passage of new language legislation. In a manifesto prepared for the strike, the dual medium school policy was characterized as an effort to denationalize the Afrikaner. In the grand tradition of conspiracies, the pamphlet saw dual medium instruction as the first state in a diabolical plot, "the true object is simply the sacrificing of Afrikanerdom on the altar of British-Jewish imperialism." The pamphlet instructed the Afrikaans churches to encourage parents not to send their children to school when the Smuts government's policy was introduced. Sympathetic school committees were urged to co-opt like-minded individuals on to their structures and sympathetic principals and teachers were asked to participate quietly. The strike which was to have been extended into the colleges of education and the universities, never materialized as the plan was exposed before it was implemented.[104]

By March 1944, Beck's analysis of the struggle around bilingual policy had become decidedly pessimistic. He wrote to Malherbe, "The Broederbond are hotting up thoroughly to frustrate the Government scheme of education." Beck was particularly concerned about efforts within the Union Department of Education to water down the proposed bilingual legislation, which he perceived as "a way of sidetracking all our efforts".[105]

In the parliamentary debates following the introduction of the legislation, Malherbe came in for considerable abuse from members of the Opposition. In the parliamentary debate that ensued, Dr. Malan attempted to discredit Malherbe: "He has been pulled to pieces by other educationists to such an extent that there is no need for anyone else to do so." In Malan's opinion, Malherbe was nothing more than a pawn, "[Smuts] has used him to make propaganda among the soldiers for the S.A.P. ideals and S.A.P. principles." In a debate that raged for three days, Malherbe's study came up repeatedly. United Party MPs presented evidence in Malherbe's favor, the nationalists offering only disparaging personal attacks.[106]

Despite Nationalist opposition, the bilingual legislation was passed in the 1944 parliamentary session. This was followed by the introduction of a series of provincial ordinances. The Transvaal for example, passed Ordinance No. 5 of 1945, which required all white pupils to learn in both official languages. The second language was to be gradually introduced as a medium of instruction in Standard VI, so that both official languages would eventually be used more or less equally as media of instruction in white schools. This ordinance was applicable in both private and government schools. Due to local English opposition, the problem of finding suitable bilingual teachers and the continued Bond activism, the Transvaal bilingual education ordinance was never really implemented. In 1949, a year after the Nationalists came to power, a new ordinance was passed in the Transvaal Provincial Council which required all white children to be educated exclusively through the medium of their mother-tongue. A few years later an additional amendment was added to the Transvaal regulations which stipulated that in cases where the home-language was in dispute, the Director of Education would be empowered to decide.

Malherbe's conviction that "facts" could act like sticks of "dynamite" on public opinion could not have been more accurate. He had not anticipated that their explosive capacity could have such unanticipated consequences. After Malherbe left the military at the end of the war, he took a position as rector of the University College in Natal. One can only speculate that this unusual move was not altogether of his choosing. For this education mandarin, goomed as he was for an executive position at the top of the nation's educational bureaucracy, Natal must have seemed like a step backward. During his first days in Natal he wrote to an old university friend in the United States about his last ill-fated research project for the Bureau. Defensive about the bilingual research publication, he wrote: "To show you that I am not in the habit of publishing scientific conclusions without the necessary data, I am sending you under separate cover another of my publications which deals with a different subject."[107]

In 1942, the president of the Carnegie Corporation of New York, F. P. Keppel, made a revealing assessment of the Bureau. In his view, while the Poor White Study was what he termed an "indisputable strike" for Carnegie, he thought that the work of the Bureau was second rate in terms of importance and influence. He wrote of the scientific research program:

> So far as I know, no outstanding success grew out of these grants, though the work (which we checked, in so far as was possible, with the Carnegie Institution) was of creditable quality and the indirect influence on the program was undoubtedly important.[108]

Why "no outstanding successes" for this new paradigm? A number of possible explanations could be given. The research was of a questionable quality, or its publication was inaccessible or poorly timed. Perhaps the Bureau did not engage in effective "public relations". An alternative explanation would locate the source outside the Bureau, in the complex world of the politics of knowledge. In this world, conflicting interests, be they those of liberal missionaries, entrenched examination bureaucrats, or Afrikaner nationalists, thwarted Malherbe's endeavors. The real significance of this history lies in the failure of the liberal-missionary network to coopt one of the most powerful ideologies of the twentieth century; and the capacity and eagerness of Afrikaner nationalists to embrace "social science", its language and institutions. Although Malherbe ultimately failed to impose his particular vision of white supremacy on South African society, his conception of social scientists as policy makers would prevail albeit with a distinct nationalist colouration after 1948.

Brahm Fleisch
April 1993

Notes

1. E.G. Malherbe, *Educational and Social Research in South Africa* (South African Council for Educational and Social Research Series No. 6) 38-9.

2. I deliberate use the word "paradigm" over alternatives such as "approach." Bureau represented a very fundamental brake with the past, not just in terms of specific research methods, but in the very kinds of questions they asked, but perhaps more importantly, in the ways in which they understood the use or outcome of its research.

3. David Tyack, *One Best System* (Boston: Harvard University Press, 1974) and Herbert Kliebard, *The Struggle for the American Curriculum* (New York, 1987)

4. Jonathan D. Jansen (ed.) *Knowledge and Power in South Africa: Critical Perspectives across the Disciplines* (Johannesburg: Skotaville Publishes, 1991). See particularly G. Gordon "Serving the Volk with Volkekunde: On the Rise of South African Anthropology" and the very thorough bibliography by Jansen, "Research on Knowledge and Power Across the Disciplines, 1980-1990" in this volume. For an overview see D. Welsh, "Social Research in a Divided Society: The Case of South Africa," in J. Rex (ed.) *Apartheid and Social Research* (UNESCO, 1981). See also, Linda Chisholm, "Aspects of Child-Saving in South Africa: Classifying and Segregating the Deliquent, 1917-1934," (African Studies Institute Seminar Paper No. 251, April 1989); "Crime, Class and Nationalism: The Criminology of Jabob de Villiers Roos, 1869-1918," *Social Dynamics* 13(2) 1987; and "A Delinquent discourse of the Thirties: Afrikaner Nationalism and Delingquency: The Criminology of W A Willemse 1934-9" (Paper to Kenton at Magoebaskloff, 1989). See also the work of Saul Dubow, most recently in "Afrikaner Nationalism, Apartheid, and the conceptualisation of 'Race'" (African Studies Seminar Paper No. 301, September 1991) The only article in English that I have found that deals with E. G. Malherbe and the period in question is Richard Glotzer's "Equalization and School Finance in South Africa 1935-1950: Paul Mort, E. G. Malherbe and the Influence of Teachers College, Columbia University." (unpublished manuscript). I have not explore the literature in Afrikaans.

5. Robert Church, "Economists as Experts: The Rise of the Academic Profession in the United States, 1870-1910" in Lawrence Stone (ed.) *The University in Society*.

6. Ellen Lagemann, *Private Power for the Public Good: A History of the Carnegie Foundation for the Advancement of Teaching* (Middletown CT: Wesleyan University Press, 1981) and The Politics of Knowledge: The Carnegie Corporation, Philanthropy and Public Policy (Middletown, Conn.: Wesleyan University Press, 1989)

7. Thomas Popkewitz, *Political Sociology of Educational Reform: Power/Knowledge in Teaching, Teacher Education, and Research* (New York, Teachers College Press, 1991)

8. Sue Krige, "Trustees and Agents of the State" (Paper presented at SACHE Meeting, 1992)

9. The historian, MacMillan attempted to challenge the role of anthropology in decision making, arguing for a unitary understanding of South African development, rather than a fragmented and ethnicized approach favored by anthropologies. See Bruce K. Murray's *Wits, The Early Years: A History of the University of the Witwatersrand, Johannesburg and its Precurors, 1896-1939* (Johannesburg: University of the Witersrand Press, 1982) chpts V and VII.

10. Malherbe, *Education in South Africa Vol. II* 385.

11. See B. Fleisch, "South African Students at American Universities: The Case of John Marquard,' *Perspectives in Education* 13/2 Winter 1992; and "Science, Efficiency, and Education: The South African Dissertations from Teachers College, 1917-1924" (Paper presented at the History of Education

Society Meeting, Kansas City, October 1991). Loram articulated a prototype of Malherbe's conception of social scientists as policy makers in an article entitled, "The Claim of the Native Question Upon Scientists," *South African Journal of Science* 18 (1921-22) 99-109.

12. E. G. Malherbe, *Education in South Africa Vol. II* 387.

13. See Lagemann, *Private Power* and *Politics of Knowledge* for examination of foundation approaches to policy.

14. I found the original type-script letter in the E. G. Malherbe Papers, File 427/1 KCM 56973(141), Killie Campbell Africana Library. It was printed unaltered in *Cape Times* June 1921.

15. See similarities to American educational science in H. Kliebard, *The Struggle for the American Curriculum* (New York: Routledge & Kegan Paul, 1987)

16. E. G. Malherbe, *Education in South Africa Vol II*, 386.

17. "National Bureau of Research in Education and Social Work in South Africa." Nov. 1933 File 427/5 KCM 56973(201).

18. *Education in South Africa II*, 389.

19. *Bulletin of Educational Statistics for the Union of South Africa, 1939* pg. 8 and "The South African Council for Educational and Social Research" File 427/1 KCM 56973(146).

20. E.G. *Education and Social Research in South Africa*. 37.

21. Carnegie Corporation Project. "Oral History of E.G. Malherbe" Columbia University, Oral History Research Office, 1968 10-12 He illustrated this point with an example of his research on teacher training. The Bureau had conducted a comparative study of the relative efficiency of university and college based teacher training. His findings strongly suggested that university trained teachers were far better. This publication of this finding cause considerable tension between the provinces which were constitutionally responsible for teacher training and the national government, under whose jurisdiction the universities fell. In his typical fashion Malherbe noted, "I gave the facts, and they argued over it. It was a case of inter-governmental jealousies that came up, but it wasn't censorship of what I did."

22. Jean Bottaro, "Education and Development: Carnegie Commissions and South Africa", *Africa Perspective* no 26, 1985 3-28; Robert Morrel (ed.), *White but Poor: Essays on the History of Poor Whites in Southern Africa, 1880-1940* (Pretoria: UNISA, 1992)

23. At this point there are two different accounts, Malherbe's recalled that Keppel directly asked him about the most urgent problem of a social nature which could be the subject of scientific research. Malherbe then suggested a study of the Poor White Problem. According to Keppel's account, the idea for the study was his own. Malherbe Oral history and Malherbe, *Never a Dull Moment* 119 and Memorandum on the Activities of the Carnegie Corporation in the British Colonies and Southern Dominions, Keppel (1942) KCM 56983 (32)b.

24. Quoted in *Never a Dull Movement*, 119.

25. Ibid.

26. E. G. Malherbe, *The Poor White Problem in South Africa Vol III: Education and the Poor White* (Report of the Carnegie Commission, 1932)

27. Ibid. Also see Pam Christie and Adele Gordon, "Politics, Poverty and Education in Rural South Africa" (in press)

28. He reflected that the "very liberal, objective attitude, which was generated, I think out of the great good will what was established out of this poor white report. All over, everybody thought that reprot was a good thing--everybody. So the Bureau, being associated with that report, initially had a good flying start in status and prestige." Oral history 43

29. E. G. Malherbe, *Social Research in South Africa*, 39.

30. See Christie on this point.

31. Clarence Karier, "Testing for Order and Control in the Corporate State," C. Karier, P. Violas, and J. Spring, *Roots of Crisis: American Education in the Twentieth Century* (Chicago, 1973) and Paula Fass, "The I.Q.: A Cultural and Historical Framework," *American Journal of Education* 88 (August 1980) 431-58. Recently the historiography on the use of I.Q. testing has shifted to local studies of how I.Q. was used in schools. For example see J. Raftrey, "Missing the Mark: Intelligence Testing in Los Angeles Public Schools, 1922-1932," *History of Education Quarterly* 28 (Spring 1988), 73-93.

32. Malherbe, *Education in South Africa* Vol II; B. Murray, *Wits* chpt.V

33. L. Fick, *An Individual Scale of General Intelligence for South Africa* (1939).

34. See Report of the Carnegie Commission Vol III, and the *Journal of General Psychology* vol. VI No. 2. (April 1931).

35. P. A. W. Cook, *The Native Standard VI Pupil* (South African Council for Educational and Social Research Research Series 10)

36. Charles T. Loram, *The Education of the South African Native* and "The Claims of the Native Questions Upon Scientists" p.104-7. Although Loram rejected innatists views on African intelligence, he believe that African adolescents were unable to sublimate their sex instinct, which he believed added to non-achievement.

37. E. G. Malherbe, *Educational Adaptation in A Changing Society*, 445-466

38. Saul Dubow, "Race, Civilization and Culture: The Elaboration of Segregationist Discourse in the Inter-War Years" in Marks and Trapido (eds.) *The Politics of Race, Class and Nationalism;* "The Idea of Race in Early 20th Century South Africa: Some Preliminary Thoughts" (African Studies Seminar Paper No. 252, April 1989)

39. L. E. Andor, *Aptitude and Abilities of the Black Man in Sub-Saharan Africa, 1784-1964: An Annotated Bibliography* (South African Council for Scientific and Industrial Research, 1966) This bibligraphy provides an excellent guide to the range of problems and research approaches to "African intelligence" in the interwar years.

40. These included J. A. Janse van Rensburg's *The Learning Ability of the South African Native* (1938) and Shingler, 218.

41. Ibid. 48.

42. Jackson Davis to E. G. Malherbe 21.3.1939 KCM 56980 (158)

43. This point was made by Dubow in "Ideas of Race in Early 20th Century South Africa", 1.

44. M. L. Fick's *The Educability of the South African Native*.

45. Sue Krige, "'Should Education Lead or Follow the Social Order', The Inter-Departmental Committee on Native Education and Segregation, 1935-1940" (Forthcoming *South African Historical Journal* May 1993) and John Shingler "Education and Political Order in South Africa, 1902-1961" particularly his chapter 16.
46. Krige's paper provides an excellent account of the political and social context for the Welsh Commission.
47. P. A. W. Cook, *The Education of A South African Tribe* (Juta, 1934). Cook is generally associated with anthropological approach. The influence of the nascent field of educational administration is evident in these studies. For more details about the school survey movement see, David Tyack and Elisabeth Hansot, *Managers of Virtue: Public School Leadership in America, 1820-1980* (New York: Basic Books, 1982)
48. The South African Council for Educational and Social Research Series volumes 10-12.
49. P. A. W. Cook, *The Native Student Teacher* (South African Council for Educational and Social Research Series No. 12)
50. Cook, *The Native Student Teacher*
51. Ibid., 22.
52. P. A. W. Cook, *The Transvaal Native Teacher* (South African Council for Educational and Social Research Series No. 11). This analysis is taken up in the Native Education Commission of 1951, popularly known as the Eiselen Commission. By the 1950s, a Lower Primary Teacher Certificate (LPTC) was established nationally for African women who had completed Standard VI.
53. See Krige, "Should Education Lead or Follow . . ."
54. E. G. Malherbe and P. A. W. Cook, *The Relationship of Entrance Age of University Students to their Academic Success* Research Series No. 3, South African COuncil for Educational and Social Research, 1938. Authors Preface
55. Malherbe and Cook, *Relationship of Entrance Age*
56. He was no stranger to the debates about the "scientific" validity of assessment instruments. As a graduate student began at Teachers College, Columbia University and again during his first few years of teaching at University of Cape Town he had given the problem some consideration. For example, "Experimental Sample of Short Answer Questions on South African Education tried out on B.Ed. Students at U.C.T. (1926?)" KCM 56973(64)
57. D. Muller, F. Ringer and B. Simon, *The Rise of the Modern Education System: Structural Change and Social Reproduction* (Cambridge: Cambridge University Press, 1987)
58. I. Kandel, *Examinations and their Substitutes* (1936)
59. E. G. Malherbe, "Whether Matric?" *South African Journal of Science* Vol. XXXV.pp 126-153 (143) and The Report of the Bureau of Education on the Reliability of the Matriculation Examination, 62 KCM 56973(316)
60. Ibid.
61. See particularly *The Marks of Examiners* (1936) and I. Kandel, *Examinations and their Alternatives* (1936).
62. Ibid. 60.
63. Wolf et al. "To Use Their Minds Well: Investigating New Forms of Student Assessment" *Reviews of Research in Education 17* (1991) 31-74; Lagemann, *Private Power for the Public Good*, 103; The Report of the Bureau of Education on the Reliability of the Matriculation Examination, 62 KCM 56973(316).
64. Report of the Committee appointed to Consider the Question of Sanctioning the Publication of the Report of the Bureau of Education on the Reliability of the Matriculation Examination 3.7.40 KCM 56973 (315).
65. Longham Murray to EG 19.8.40 KCM56973(315) and EG to Murray 16.7.40
66. Malherbe, *Education in South Africa Vol. II*, 469-70.
67. See Anne Aucamp, *Bilingualism Education and Nationalism with Specific reference to South Africa*, (Pretoria, van Schalk, 1935); A.K. Bot, *Transvaal Historical Review (ii) The Language Question 1910-1960* (1965); John Shingler, "Education and the Political Order" Malherbe, *Education in South Africa Vol. II*: B. Rose and R. Tumner (eds.) *Documents in South African Education* (Johannesburg: AD Donker, 1975) Section Three, Language and Education.
68. See Aucamp, *Bilingualism* . . .; Shingler, "Education and the Political Order . . .
69. Isabel Hofmeyer, "Building a Nation With Words" in Marks and Trapido, *The Politics of Race, Class and Nationalism*
70. Ibid.; and Dan O'Meara, *Volks Kapitalisme*
71. Province of Natal, Education Commission, 1937. (Broome) see Rose and Tumner, 185-6.
72. E.G. Malherbe pg.40. Province of Transvaal. Report of the Provincial Education Commission. 1939 (Nicol.)
73. Presumably documentation about the the origins of the study was lost or destroyed when the the Bureau moved from the Union Buildings to another building in Pretoria after the War. Malherbe himself, neither in the actual report, his later comprehensive history of South African education, which includes five chapter so the language question, nor his autobiography sheds any light on this question. The majority of the raw data, the sheets from the interview and test of 18 000 children where also lost in the move. See Malherbe, *Education in South Africa II*, pg 57, footnote 1.
74. E. G. Malherbe *The Bilingual School*, 40-45.
75. Ibid. 40.
76. Ibid.
77. Ibid. 105-114.
78. Ellen C. Lagemann, "I have often argued to students, only in part to be perverse, that one cannot understand the history of education in the United States during the twentieth century unless one realizes that Edward L. Thorndike won and John Dewey lost." see "The Plural Worlds of Educational Research" *History of Education Quarterly* 29(2) Summer 1989 p185. See also Sloan discussion of Dewey and the fact/value split.
79. CNA to EG 3.9.43 KCM56976(105).
80. T.C. Robertson to EG 24.8.1943 and 9.10.43.KCM 56976 (103) and (112).
81. *Die Volksblad* 17.7.41. All the translations are my own.

82. *Pretoria News*, 23.9.43; *The Star* 23.9.43; *Die Volkstem* 23.9.43; *Rand Daily Mail*, 28.9.43; *Cape Times*, 28.9.43; *The Friend* 30.9.43; *Pretoria News* 28.9.43 and *Die Volkstem* 28.9.43; *Die Volkstem* 29.9.43; *Die Volk* 1.10.43, *The Cape Argus* 2.10.43; *Die Suidestem* 4.10.43; *The Friend*; 4.10.43; *Die Vrystaater* 5.10.43; *Die Suidestem* 5.10.43; *Trek* 8.10.43; *Daily News* 9.10.43; *Sunday Times* 10.10.43.

83. *Die Vrystaater* 28.9.43.

84. *The Cape Times* 30.9.43.

85. *Natal Mercury* 30.9.43.

86. *Die Transvaler* 24.9.43.

87. *The Friend* 30.9.43.

88. *Die Volksblad* 1.10.43.

89. D J. Opperman to United Party Candidates 29.8.43 (roneod) KCM5676(17)

90. Moodie, 242-3.

91. E.G. to William Greenberg of P.S. 14.9.43 KCM5676(116);E.G. letter to Prof. Reynburn 30.11.1943 KCM56976(8).

92. H. Beck to EG 3.9.43 KCM56976 (107).

93. H. Beck to EG 8.10.43 KCM56976 (111).

94. See "Bilingual Medium Draft Proposal" (typescript) signed by E.G. Malherbe 6.1.44 This document had three parts and an appendix, a motivation, the wording for the actual draft legislation, some points of detail and an appendix which included reactions of the opposition in general.KCM 57031(46).

95. *Die Burger* 1.10.43; Botha later became Minister of Bantu Administration and Development and of Bantu Education in the Vorster Cabinet. *Die Vaderland* 14.10.43 and 16. *Die Burger* 6.11.43, based on an address Dr. Meirings gave at the Cape Town Branch of the S.A.O.U. See also Dr. W. J. B. Pienaar to E.G.M. 17.7.44.

96. Prof. J. A. J. van Rensburg, Discussion on the Bilingual School (typescript) KCM 56976.

97. H. Beck to E G. 30.11.43 KCM567976 (132).

98. *Die Burger* 24.11.43; *Die Suidestem* 24.11.43; *Die Oosterlig* 29.11.43

99. E.G. letter to Prof. Reynburn 30.11.1943 KCM56976(8).

100. EG Malherbe "Prof. van Rensburg" (typescript) KCM 57031(43).

101. Unknown "Educationalists who support Dr. Malherbe" (typescript) KCM 57031(37).

102. KCM 57031 (37).

103. *The Forum* 4.12.43.

104. E.G. letter to Prof. Reynburn 30.11.1943 KCM56976(8); An English translation of the pamphlet published in Malherbe's *Education in South Africa Vol.* II 55 and 691.

105. H. Beck to E.G. 8.3.44 KCM56976 (154).

106.Assembly Debates, 1944 cols. 2887, 2898-9, 5993, 6011, 6087 and 6011.

107. E.G. to Dr. Seth Arsenian, Springfield College, MA KCM 56976(179) Malherbe still smarted from the struggle with the Broederbond and the National Party supporters thirty years later. The first section of his *Education in South Africa II* contains a little disguised apology of this own research work and a direct attack on many of the members of the Naticnal Party who were key protagonists in the struggle. Passim 23-140. By the time he wrote his autobiography he chose not to include any account of what must have been one of the most emotionally draining moments in his life.

108. Memorandum on the Activities of the Carnegie Corporation in the British Colonies and Southern Dominions. (1942) KCM 56983 (32)b.